

What is claimed is:

1. A soil probe for collecting soil samples, comprising:  
a frame adapted to be pivotally mounted to a vehicle and  
having first and second sections;  
a wheel rotatably mounted on the second section of the frame,  
and having a perimeter with a plurality of soil probes  
extending radially outward from the perimeter for  
collecting soil sample;  
a hydraulic cylinder extending between the vehicle and the  
first section of the frame for moving the wheel between  
raised and lowered positions; and  
the first and second sections of the frame being pivotally  
connected such that the wheel is movable between a  
longitudinally extended use position and a laterally  
folded transport position.
2. The soil probe of claim 1 wherein the wheel includes a  
plurality of plunger assemblies, each plunger assembly being  
associated with one of the probes and being movable between  
an inoperative retracted position and an extended position  
within the probe to expel a soil sample from the probe.
3. The soil probe of claim 2 wherein the plunger assemblies  
are biased toward the retracted position.
4. The soil probe of claim 2 wherein the plunger assemblies  
are pivotally mounted on the wheel for movement between the  
retracted and extended positions.
5. The soil probe of claim 2 wherein the wheel includes a  
cam and the plunger assemblies are moved from the retracted  
position to the extended position by the cam.

100555350-030102

**BEST AVAILABLE COPY**

6. The soil probe of claim 2 wherein each plunger assembly includes a pivot arm and a clean out rod, the rod being aligned with the associated probe for axial movement with respect to the probe.

7. The soil probe of claim 1 further comprising a pin removable extending through the first and second sections to retain the wheel in the use positions.

8. The soil probe of claim 7 wherein one of the first and second frame sections includes a slot through which the pin extends to allow a range of angular movement between the first and second frame sections.

9. The soil probe of claim 1 further comprising a plurality of spikes extending radially outward from the perimeter of the wheel.

10. The soil probe of claim 8 wherein one spike is positioned between adjacent probes.

11. The soil probe of claim 1 wherein the use and transport positions of the wheel are substantially perpendicular to one another.

12. The soil probe of claim 1 wherein each probe has an outer end for receiving and discharging the soil sample.

13. The soil probe of claim 1 further comprising an arm mounted on the frame and adapted to engage a portion of the wheel to prevent reverse rotation of the wheel.

9  
10586360-030102

14. A soil probe for collecting soil samples, comprising:  
a frame adapted to be mounted on a vehicle;  
a wheel rotatably mounted on the frame;  
at least one probe extending outwardly from the wheel and  
having an outer end adapted to receive a soil sample and  
an inner end; and  
a plunger rod mounted in the wheel for movement between a  
retracted position adjacent the inner end of the probe  
and an extended position adjacent the outer end of the  
probe to discharge the soil sample from the outer end of  
the probe.

15. The soil probe of claim 14 wherein the plunger rod is  
mounted on an arm pivotally mounted on the wheel.

16. The soil probe of claim 15 further comprising a cam on  
the wheel adapted to periodically engage and pivot the arm to  
move the plunger rod from the retracted position to the  
extended position.

17. The soil probe of claim 14 wherein the frame includes a  
first section pivotal about a horizontal axis such that the  
wheel is movable between raised and lowered positions and a  
second section pivotal about an upwardly angled axis such  
that the wheel is movable between extended and retracted  
positions.

18. The soil probe of claim 17 further comprising a pin  
removable extending through the first and second sections to  
retain the wheel in the use and transport positions.

19. The soil probe of claim 17 wherein the use and transport positions of the wheel are substantially perpendicular to one another.

20. The soil probe of claim 14 wherein the plunger rod is biased toward the retracted position.

21. The soil probe of claim 14 further comprising an arm mounted on the frame and adapted to engage a portion of the wheel to prevent reverse rotation of the wheel.

22. A method for obtaining a soil sample, comprising:  
rotating a wheel having a probe such that the probe  
penetrates the soil to collect a soil sample through an  
open outer end of the probe;  
continuing rotation of the wheel such that the probe is  
withdrawn from the soil with the soil sample retained in  
the probe; and  
extending a plunger rod into an inner end of the probe so as  
to discharge the soil sample through the outer end of  
the probe.

23. The method of claim 22 wherein the extension of the plunger rod is automatic upon continued rotation of the wheel.

24. The method of claim 22 wherein the extension of the plunger rod is by cam action.

25. The method of claim 22 further comprising preventing reverse rotation of the wheel.